# General

## Guideline Title

Breast reconstruction following prophylactic or therapeutic mastectomy for breast cancer.

## Bibliographic Source(s)

Alberta Provincial Breast Tumour Team. Breast reconstruction following prophylactic or therapeutic mastectomy for breast cancer. Edmonton (Alberta): CancerControl Alberta; 2017 Feb. 44 p. (Clinical practice guideline; no. BR-016). [260 references]

## Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Alberta Provincial Breast Tumour Team. Breast reconstruction following prophylactic or therapeutic mastectomy for breast cancer. Edmonton (Alberta): CancerControl Alberta; 2013 Sep. 47 p. (Clinical practice guideline; no. BR-016). [208 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

# Recommendations

## Major Recommendations

1. Patient education. Women with breast cancer or those deemed to be at high risk for developing breast cancer (e.g., breast cancer genes 1 and 2 [*BRCA1* and *BRCA2*] mutation carriers) should receive standardized information about breast reconstruction early in their decision making process. Patients who are to undergo either therapeutic or prophylactic mastectomy should receive detailed, individually tailored information to assist with decision making, including appropriate breast reconstruction consultation if desired.
2. Eligibility for post-mastectomy breast reconstruction. Various patient and treatment factors affect options, risks, and outcomes of breast reconstruction. Consultation with a specialist in breast reconstruction can provide a patient with a specialized treatment plan and anticipated outcomes, risks, and benefits so she can determine if breast reconstruction is appropriate for her. Factors that should be weighed when considering candidates for any method of breast reconstruction (immediate or delayed) include:
    - Cancer factors: tumour stage and location, risk of relapse
    - Treatment factors: prior, concurrent, or anticipated future breast cancer treatment (such as surgery, radiation, and chemotherapy)
    - Patient factors: co-morbidities, body habitus, smoking status, and behavioral/ lifestyle factors
3. Types of breast reconstruction
    - Several types of breast reconstruction are available, including: implant-based, autologous flap and combination reconstructions (i.e., autologous with implant).
    - There is no evidence to suggest that one type of procedure can be recommended over another. The decision as to which type of reconstruction to use should be left to the discretion of the surgeon(s) and the patient after sufficient counseling on the benefits and

limitations of each procedure. Table 1 in the original guideline document presents factors which may influence the type of reconstruction to be performed.

4. Timing of breast reconstruction (immediate versus delayed)
    - Patients undergoing prophylactic mastectomy should be considered for immediate breast reconstruction (i.e., at the time of surgery).
    - Patients undergoing therapeutic mastectomy who do not, or are unlikely to, require post-mastectomy radiotherapy should be considered for immediate breast reconstruction. There is sufficient evidence to support the oncologic safety of immediate reconstruction in these patients.
    - Patients for whom post-mastectomy radiotherapy is probable or uncertain should be discussed for breast reconstruction appropriateness in a multidisciplinary setting and meet pre-operatively with a radiation oncologist as needed; in general, reconstruction should be delayed until after treatment with radiation therapy has been completed. Concerns include the inability to include important structures in radiation therapy volumes, and an increase in long term fibrotic complications in both implant and autologous tissue based immediate reconstruction.
    - On average, patients who are good candidates for reconstruction and receiving other adjuvant therapies, including chemotherapy, can be safely offered breast reconstruction with no evidence of adverse effects on the outcome of reconstruction and no clinically relevant delay in chemotherapy.
    - Patients for whom immediate breast reconstruction is not appropriate may be considered for delayed breast reconstruction as an acceptable alternative after completion of all recommended adjuvant therapies.
5. Factors that enhance recovery after breast reconstruction. Irrespective of type or timing of reconstruction, recovery can be improved by adherence to Enhanced Recovery After Surgery (ERAS®) protocols, such as limiting pre-operative fasting, carbohydrate loading, multimodal analgesia, post-operative nausea and vomiting prophylaxis, goal directed fluid therapy, early institution of post-operative feeding, early ambulation, and adequate post-discharge outpatient supports.
6. Extent of mastectomy (i.e., skin-sparing, nipple-sparing)
    - Skin-sparing mastectomy is acceptable for any patient undergoing immediate breast reconstruction.
    - Nipple-sparing mastectomy is oncologically safe for prophylactic patients, but may not be suitable for every patient based on risk of nipple necrosis.
    - For patients with malignancy, there is no level one evidence for or against the oncologic safety of nipple-sparing mastectomy (NSM). Multidisciplinary input and discussion between the surgeons and the patient about potential additional risks such as perfusion issues and local recurrence risk associated with this approach are required.
    - There is limited evidence around what surgical factors to consider when performing mastectomy; however, based on consensus of the guideline working group, a list of technical considerations is included in Appendix A in the original guideline document.
7. Risks and benefits of breast reconstruction
    - Patients should be made aware that breast reconstruction is a complex, major, multi-step surgery and that complications occur.
    - Patient expectations should be assessed prior to surgery, in order to optimize care. In addition, patients should be made aware that the final outcome may vary from patient to patient and that the reconstructive surgery will not restore the breast to its original function, appearance, or sensation.
    - Complications can occur with each type of reconstructive procedure. Listed below are the most common complications associated with each procedure:
        - Autologous reconstructions: mastectomy skin necrosis, seroma, scarring, hematoma, chronic back pain, abdominal weakness, bulge, hernia, fat necrosis, partial or complete flap necrosis. There is evidence to suggest that deep inferior epigastric perforators (DIEP) flaps carry a higher risk of fat necrosis and flap loss, as compared to muscle-sparing transverse rectus abdominis myocutaneous (TRAM) flaps. There is also evidence to suggest that donor-site morbidity (i.e., bulge formation, hernia) is lower with DIEP flaps, as compared to muscle-sparing TRAM flaps.
        - Implant-based reconstructions: mastectomy skin flap necrosis, infection, seroma, hematoma, chronic breast pain, implant rupture, tissue expander puncture, exposure or malposition, capsular contracture, and an extremely rare form of breast implant associated anaplastic large cell lymphoma (BIA-ALCL).
    - Careful patient evaluation for risk factors for complications is required to determine if a woman is appropriate for immediate reconstruction. It is critical to minimize the chance of delay to adjuvant chemotherapy for triple negative or human epidermal growth factor receptor 2 (HER-2) positive breast cancer, as a delay of >61 days may lead to inferior breast outcomes.
8. Implant-based acellular dermal matrix reconstructions
    - The use of human acellular dermal matrix (HADM) in immediate prosthetic breast reconstruction confers the potential benefits of improved aesthetic results, reduced rates of capsular contracture and implant malposition, and the possibility of a single-stage "direct to implant" procedure for carefully selected patients.
    - These benefits should be weighed against the potentially higher risks of mastectomy skin necrosis, postoperative seroma, and infection in HADM-assisted prosthetic reconstruction, when compared to traditional, non HADM-assisted techniques.

- Based on consensus, the use of HADM in breast reconstruction should be at the discretion of the reconstructive surgeon, in consultation with the patient and oncologic team. Indications to use HADM include two-stage expander/implant reconstruction or direct-to-implant single-stage reconstruction, to gain increased control over infra- and lateral mammary fold position and ptosis.

9. Adjunctive autologous fat grafting (lipofilling) for contour regularities after breast reconstruction. Case control data supports the safety of lipofilling. Data from comparative studies and case reports suggest that patient satisfaction is good; however more data is needed.
10. Post-breast reconstruction surveillance. Regarding oncologic surveillance, there is no evidence to support routine screening mammography of the reconstructed breast; therefore, it is not recommended. Fat necrosis is a common and benign mammographic finding in patients with reconstructed breasts. Post-reconstruction patients with suspicious masses or symptoms should be referred to a surgeon for examination and further workup. Regarding implant surveillance, although magnetic resonance imaging (MRI) can detect silent implant shell rupture, there is no evidence that radiologic screening of asymptomatic reconstructed breasts improves women's health.
11. Measuring outcomes in breast reconstruction. Clinical and patient reported outcomes can be recorded, with presently available validated instruments, at the pre-, peri- and post-operative stage to help multi-disciplinary teams deliver consistent, high quality care with minimal variability.

### Clinical Algorithm(s)

An algorithm titled "Algorithm for the use of breast reconstruction in patients undergoing mastectomy" is provided in the original guideline document.

## Scope

### Disease/Condition(s)

Breast cancer

### Guideline Category

Counseling

Evaluation

Management

Prevention

Risk Assessment

Treatment

### Clinical Specialty

Obstetrics and Gynecology

Oncology

Plastic Surgery

Radiation Oncology

Surgery

### Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

## Guideline Objective(s)

To provide physicians in Alberta with recommendations on the selection of candidates for breast reconstruction, the decision on how much tissue to remove during mastectomy, the timing of reconstruction procedures, the selection of an appropriate reconstruction, and the impact of breast reconstruction on adjuvant therapy

## Target Population

Women over the age of 18 years who are candidates for mastectomy, either for the treatment of breast cancer or for the prophylaxis of breast cancer in patients at high genetic risk

## Interventions and Practices Considered

1. Patient education concerning breast reconstruction
2. Assessment of patient eligibility for post-mastectomy breast reconstruction
3. Choice of type of breast reconstruction: implant-based, autologous flap, and combination reconstructions (i.e., autologous with implant)
4. Timing of breast reconstruction (immediate versus delayed)
5. Consideration of treatment, patient, and cancer factors that can affect outcomes of breast reconstruction
6. Consideration of extent of mastectomy (i.e., skin-sparing, nipple-sparing)
7. Discussing risks and benefits of breast reconstruction with the patient
8. Use of implant-based acellular dermal matrix reconstructions
9. Use of adjunctive autologous fat grafting (lipofilling) for contour regularities after breast reconstruction
10. Factors that enhance recovery after breast reconstruction
11. Post-breast reconstruction surveillance

## Major Outcomes Considered

- Aesthetic outcomes
- Short- and long-term complications
- Patient satisfaction
- Postoperative pain
- Cost-effectiveness
- Local recurrence rate
- Length of hospital stay
- Failure rate
- Quality of life
- Overall survival time/recurrence-free survival/distance recurrence-free survival
- Psychological morbidity

# Methodology

## Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

## Description of Methods Used to Collect/Select the Evidence

Research Questions

Specific research questions to be addressed by the guideline document were formulated by the Guideline Working Group (GWG) guideline lead(s) and Knowledge Management (KM) Specialist using the PICO question format (Patient or Population, Intervention, Comparisons, Outcomes).

Guideline Questions

The questions below are consensus-based and were derived from a discussion among the members of the guideline working group.

1. Who should receive breast reconstruction education information?
2. Who is a candidate for post-mastectomy breast reconstruction?
3. Which types of breast reconstruction are available?
4. What is the appropriate timing of breast reconstruction?
5. What is appropriate extent of mastectomy (i.e., skin-sparing, nipple-sparing)?
6. What are the risks and benefits associated with breast reconstruction?
7. What is the role of acellular dermal matrix in implant-based breast reconstruction?
8. What is the role of autologous fat grafting as an adjunct to breast reconstruction?
9. How can recovery be improved in breast reconstruction patients?
10. What is the appropriate post-breast reconstruction surveillance?
11. How do we measure outcomes in breast reconstruction?

Search Strategy

Peer-reviewed articles were searched on February 29, 2016 and March 14, 2016 using PubMed, the Cumulative Index to Nursing and Allied Health Literature (CINAHL), MEDLINE, EMBASE, and the Evidence-Based Medicine (EMB) Database. The following search terms were used: breast cancer, breast neoplasm, breast carcinoma, breast tumour/tumor, ablative surgery, mastectomy, ablation therapy, breast reconstruction, and mammoplasty. Results were limited to human participants >19 years of age, studies published in English, and publications from November 2012 to March 2016. Additional exclusion criteria included studies with ≤25 patients, and studies with singular focuses on costs, patient-reported outcome measures, imaging and prognostic factors.

The National Guideline Clearinghouse (NGC , Agency for Healthcare Research and Quality) was searched for clinical practice guidelines related to breast reconstruction. In addition, the Web pages of well-recognized cancer guideline developers such as American Society of Clinical Oncology (ASCO), British Columbia Cancer Agency (BCCA), Cancer Care Ontario (CCO) and others were hand-searched to ensure no clinical practice guidelines had been missed.

## Number of Source Documents

In total, 362 articles were identified, of which 54 were reviewed in detail based on a title/abstract screen.

## Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Weighting According to a Rating Scheme (Scheme Given)

## Rating Scheme for the Strength of the Evidence

The evidence for the interventions in Table 1 in the original guideline document was assessed according to the following system:

Good - at least one well-designed randomized controlled trial or several comparative studies available

Moderate evidence - non-comparative observational studies (i.e., prospective and/or retrospective cohorts) available only

Insufficient evidence - only case reports or anecdotal evidence available; when the evidence was insufficient, recommendations were developed based on the working group's consensus or from guideline recommendations elsewhere.

## Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

## Description of the Methods Used to Analyze the Evidence

Evidence was selected and reviewed by a working group comprised of members from the Alberta Provincial Breast Tumour Team, a province-wide working group of plastic surgeons, and a Knowledge Management Specialist (KMS) from the Guideline Utilization Resource Unit (GURU). A detailed description of the methodology followed during the guideline development process can be found in the GURU Handbook (see the "Availability of Companion Documents" field).

Between initial publication of this guideline in 2013 and the update in 2016, there have been four new clinical practice guidelines published that are focused exclusively on breast reconstruction and updates to five breast cancer guidelines to include recommendations on breast reconstruction. These developments have been reviewed and incorporated into this guideline where appropriate.

Evidence Tables

Evidence tables generally document the following information: authors, year of publication, patient group/stage of disease, study methods, and main outcomes of interest. Existing guidelines on the topic are assessed by the KMS using portions of the Appraisal of Guidelines Research and Evaluation (AGREE) II instrument (http://www.agreetrust.org ) and those meeting the minimum requirements are included in the evidence document. Due to limited resources, GURU does not regularly employ the use of multiple reviewers to rank the level of evidence; rather, the methodology portion of the evidence table contains the pertinent information required for the reader to judge for himself the quality of the studies.

## Methods Used to Formulate the Recommendations

Expert Consensus

## Description of Methods Used to Formulate the Recommendations

Development and Revision History

This guideline was reviewed and endorsed by the Alberta Provincial Breast Tumour Team. Members of the Alberta Provincial Breast Tumour Team include medical oncologists, radiation oncologists, surgeons, nurses, pathologists, psychologists, and pharmacists. Evidence was selected and reviewed by a working group comprised of members from the Alberta Provincial Breast Tumour Team, a province-wide working group of plastic surgeons, and a Knowledge Management Specialist (KMS) from the Guideline Resource Unit (GURU). A detailed description of the methodology followed during the guideline development process can be found in the GURU handbook (see the "Availability of Companion Documents" field).

Formulating Recommendations

The Guideline Working Group (GWG) working group members formulate the guideline recommendations based on the interpretation of evidence synthesized by the KMS during the planning process blended with expert clinical experience and local context. The GWG members may decide to adopt the recommendations of another institution without any revisions, adapt the recommendations of another institution with revisions, or develop

their own set of recommendations. The degree to which a recommendation is based on expert opinion of the GWG and/or the Provincial Tumour Team members is explicitly stated in the guideline recommendations. Ideally recommendations should be presented in a standardized format explicitly detailing appropriate actions and the circumstances in which they should be applied. Wording should be such that it is possible to evaluate the compliance to each recommendation.

Evidence Foundations and Strength of Recommendations

Similar to the American Society of Clinical Oncology (ASCO) methodology for formulating guideline recommendations, GURU does not use formal rating schemes for describing the strength of the recommendations, but rather describes, in conventional and explicit language, the type and quality of the research and existing guidelines that were taken into consideration when formulating the recommendations including:

- Description of all known benefits and possible harms
- Evidence summary, quality/quantity/consistency of discussion
- Discussion of the role of clinical experience, theory, values and opinions in developing the recommendation

Drafting the Guideline

After the GWG members have come to an agreement on the guideline recommendations, the KMS will complete a draft version of the guideline using a standard format. The KMS will provide working group members with the template for the GURU guideline, and seek input on the content of specific sections.

Development of Algorithms

A treatment algorithm is a structured multidisciplinary schematic detailing essential steps in the care of patients with a specific clinical problem. Algorithms often accompany final guidelines and help to facilitate systematic collection of clinical data that can be used to promote change in practice. Treatment algorithms are developed either simultaneously with the development of a new guideline, or *post hoc* for an existing guideline and are used as an implementation tool to improve guideline awareness and uptake.

## Rating Scheme for the Strength of the Recommendations

Not applicable

## Cost Analysis

Cost Issues (Types of Reconstruction)

American statistics from 2008 revealed a $2,860 USD difference in cost (including initial hospitalization and complications and revisions up to one year) in favor of a free transverse rectus abdominis myocutaneous (TRAM) flap ($14,080 USD) over an implant ($16,940 USD); however, the cost difference disappeared over time. A Canadian study comparing deep inferior epigastric perforator (DIEP) and TRAM flap reconstructions, using a cost-effectiveness analysis incorporating medical costs (inpatient costs only) from the Ontario Ministry of Health (2002), showed that the DIEP flap was slightly more costly than the free TRAM flap ($7,026.47 versus $6,508.29) while providing similar quality-adjusted life years (QALYs) to the free TRAM flap (28.88 years versus 28.53 years). It has been reported elsewhere, however, that the cost of a latissimus dorsi (LD), TRAM, or DIEP flap reconstructions, including both primary surgery and any revisions, are similar, and that any small financial benefits gained from the implant reconstruction at initial surgery will be lost over time, as patients require additional revisions. A 2015 cost analysis found initial healthcare costs at the time of surgery were greatest for autologous patients (autologous=$54,309 USD, direct-to-implant=$46,228 USD, expander/implant=$39,470 USD, $p<0.001$), but after 3 years, the absolute difference in cost between the groups had decreased (autologous=$66,882 USD, direct-to-implant=$64,145 USD, expander/implant=$63,806 USD, $p<0.001$). The authors credit this reduced differential to unplanned revisions being lowest among the autologous cohort (autologous=34.4%, direct-to-implant=45.9%, expander/implant=59.2%, $p<0.001$). As such, no recommendations can be made, favoring one type of reconstruction over another from a cost perspective.

Human Acellular Dermal Matrices (HADM)

Data is insufficient to draw definitive conclusions regarding the overall cost-effectiveness of HADM in breast reconstruction. A Canadian cost analysis study demonstrated that although these products are expensive, their use can result in an overall cost savings to the health care system as a result of fewer revisionary and second stage procedures. The authors emphasize the need for further randomized controlled trials to evaluate both the clinical outcomes and costs of ADM-assisted breast reconstruction. One such multicentre Canadian trial (NCT00956384) comparing HADM-

assisted single stage, "direct-to-implant" reconstruction to conventional two-stage expander implant reconstruction, is underway. Outcomes measures include aesthetic outcomes, short and long term complications, and overall patient satisfaction. This trial should clarify the role of HADM in "direct-to-implant" reconstructions, and will also examine the cost-effectiveness of the procedure.

### Method of Guideline Validation

Internal Peer Review

### Description of Method of Guideline Validation

This guideline was reviewed and endorsed by the Alberta Provincial Breast Tumour Team.

Guideline Review and Approval (Consensus)

Once a guideline draft is complete it is necessary to ensure that the individuals who are intended to use the guideline have the opportunity to review it and identify potential challenges for implementation before the guideline is published. If there is general agreement regarding best practice on a particular topic, an informal consensus process can be used to reach agreement on guideline recommendations amongst working group members and the Provincial Tumour Team members; this can be achieved through discussions at meetings, or by email and teleconference. A more formalized process may be required in some situations, including when:

- Guideline topic is controversial
- Known practice variations exist
- Guideline spans across multiple Tumour Teams
- There is a limited or inconclusive evidence available in the literature
- External expertise/significantly affected groups are needed

A common method used to obtain formal consensus on complex issues is the Delphi process. The Guideline Resource Unit (GURU) utilizes a modified Delphi process similar to that used by the American Society of Clinical Oncology (ASCO) and Cancer Care Ontario (CCO) in which successive iterations of a draft guideline/recommendation are disseminated to the Provincial Tumour Team and sometimes external experts (via an anonymous online survey tool) until consensus is reached. Prior to drafting the guideline recommendations, the Guideline Working Group (GWG) determines an appropriate response rate and an acceptable level of agreement. Based on the feedback received and the level of agreement, the GWG updates the draft guideline and presents the updated draft to the Provincial Tumour Team and any impacted groups. Once a consensus is reached, the guideline is approved by the Tumour Team Lead and is published to the Alberta Health Services Web site. Figure 2 in the GURU Handbook describes the consensus process (see the "Availability of Companion Documents" field).

## Evidence Supporting the Recommendations

### Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

## Benefits/Harms of Implementing the Guideline Recommendations

### Potential Benefits

- For women who do undergo mastectomy, whether for therapeutic or for prophylactic reasons, the side effects of mastectomy can be significant. Anxiety and depression, poor body image, sexual issues, and phantom breast syndrome have been well-documented among patients who have undergone mastectomy. However, breast reconstruction may alleviate some of the postmastectomy distress experienced by these patients.
- Refer to the original guideline document for additional information on the potential benefits and harms of various types of breast reconstruction.

### Potential Harms

- Complications can occur with each type of reconstructive procedure. Listed below are the most common complications associated with each procedure:
    - Autologous reconstructions: mastectomy skin necrosis, seroma, scarring, hematoma, chronic back pain, abdominal weakness, bulge, hernia, fat necrosis, partial or complete flap necrosis. There is evidence to suggest that deep inferior epigastric perforator (DIEP) flaps carry a higher risk of fat necrosis and flap loss, as compared to muscle-sparing transverse rectus abdominis myocutaneous (TRAM) flaps. There is also evidence to suggest that donor-site morbidity (i.e., bulge formation, hernia) is lower with DIEP flaps, as compared to muscle-sparing TRAM flaps.
    - Implant-based reconstructions: mastectomy skin necrosis, infection, seroma, hematoma, chronic breast pain, implant rupture, tissue expander puncture, exposure or malposition, capsular contracture, and an extremely rare form of breast implant associated anaplastic large cell lymphoma (BIA-ALCL).
- The use of human acellular dermal matrix (HADM) has potentially higher risks of mastectomy skin necrosis, postoperative seroma, and infection, and mastectomy skin necrosis in HADM-assisted prosthetic reconstruction, when compared to traditional, non HADM-assisted techniques.
- The Canadian Society of Plastic Surgeons (CSPS) has released a statement acknowledging the low but increased risk of ALCL in women with breast implants.

## Contraindications

### Contraindications

- In previously radiated patients, the use of tissue expanders/implants is relatively contraindicated. Current guidelines recommend autologous or combined autologous/implant reconstruction in women who have received prior irradiation to the breast, as tissue expanders and implants carries higher risk for complications.
- In a breast that has been previously irradiated, there is evidence which contraindicates the use of human acellular dermal matrix (HADM); a retrospective study found a tissue expander loss rate of 40.7% in previously irradiated breasts with HADM, a rate that was triple the rate in radiated breasts without HADM (13.5%).

## Qualifying Statements

### Qualifying Statements

- The recommendations contained in this guideline are a consensus of the Alberta Provincial Breast Tumour Team and are a synthesis of currently accepted approaches to management, derived from a review of relevant scientific literature. Clinicians applying these guidelines should, in consultation with the patient, use independent medical judgment in the context of individual clinical circumstances to direct care.
- The algorithm provided in the original guideline document was made in an effort to standardize clinical practice across the province. The information is not meant to be prescriptive or to replace the clinical judgment of any medical practitioner. Please refer to related clinical practice guidelines for established recommendations (available at www.ahs.ca/guru ): Adjuvant Radiation Therapy for Invasive Breast Cancer, Adjuvant Radiation Therapy for Ductal Carcinoma In Situ, Systemic Therapy for Early Stage (Lymph Node Negative and Lymph Node Positive) Breast Cancer, and Neo-Adjuvant (Pre-Operative) Therapy for Breast Cancer – General Considerations. Practice variations for therapy may exist within the province.

## Implementation of the Guideline

### Description of Implementation Strategy

- Present the guideline at the local and provincial tumour team meetings and weekly rounds.
- Post the guideline on the Alberta Health Services (AHS) Web site.

- Send an electronic notification of the new guideline to all members of CancerControl Alberta.
- Publish the guideline in a peer-reviewed journal.

### Implementation Tools

Clinical Algorithm

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

## Institute of Medicine (IOM) National Healthcare Quality Report Categories

### IOM Care Need

Living with Illness

Staying Healthy

### IOM Domain

Effectiveness

Patient-centeredness

## Identifying Information and Availability

### Bibliographic Source(s)

Alberta Provincial Breast Tumour Team. Breast reconstruction following prophylactic or therapeutic mastectomy for breast cancer. Edmonton (Alberta): CancerControl Alberta; 2017 Feb. 44 p. (Clinical practice guideline; no. BR-016). [260 references]

### Adaptation

Not applicable: The guideline was not adapted from another source.

### Date Released

2017 Feb

### Guideline Developer(s)

CancerControl Alberta - State/Local Government Agency [Non-U.S.]

### Source(s) of Funding

There was no direct industry involvement in the development or dissemination of this guideline.

## Guideline Committee

Alberta Provincial Breast Tumour Team

## Composition of Group That Authored the Guideline

Members of the Alberta Provincial Breast Tumour Team include medical oncologists, radiation oncologists, surgeons, nurses, pathologists, psychologists, and pharmacists.

## Financial Disclosures/Conflicts of Interest

Participation of members of the Alberta Provincial Breast Tumour Team in the development of this guideline has been voluntary and the authors have not been remunerated for their contributions. There was no direct industry involvement in the development or dissemination of this guideline. CancerControl Alberta recognizes that although industry support of research, education and other areas is necessary in order to advance patient care, such support may lead to potential conflicts of interest. Some members of the Alberta Provincial Breast Tumour Team are involved in research funded by industry or have other such potential conflicts of interest. However the developers of this guideline are satisfied it was developed in an unbiased manner.

## Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Alberta Provincial Breast Tumour Team. Breast reconstruction following prophylactic or therapeutic mastectomy for breast cancer. Edmonton (Alberta): CancerControl Alberta; 2013 Sep. 47 p. (Clinical practice guideline; no. BR-016). [208 references]

This guideline meets NGC's 2013 (revised) inclusion criteria.

## Guideline Availability

Available from the Alberta Health Services Web site .

## Availability of Companion Documents

The following is available:

- GURU - Guideline utilization resource unit handbook. Version 3. Edmonton (Alberta): CancerControl Alberta; 2016 Feb. 11 p. Available from the Alberta Health Services Web site .

In addition, Appendix A in the original guideline document lists technical issues relevant to different types of breast reconstruction.

## Patient Resources

None available

## NGC Status

This NGC summary was completed by ECRI Institute on August 12, 2014. The information was verified by the guideline developer on September

22, 2014. This summary was updated by ECRI Institute on April 4, 2017. The updated information was verified by the guideline developer on May 8, 2017.

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